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# (12) United States Patent

### Sennett et al.

# (54) CEMENT-DIRECTING ORTHOPEDIC IMPLANTS

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- (60) Provisional application No. 60/562,686, filed on Apr. 15, 2004, provisional application No. 60/604,800, filed on Aug. 26, 2004.

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(58) Field of Classification Search

None

See application file for complete search history.

## (56) References Cited

#### U.S. PATENT DOCUMENTS

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### (57) ABSTRACT

A cement-directing structure for use in cement-injection bone therapy includes a collapsible, self-restoring braided structure with regions of differential permeability to the bone cement. The regions of differential permeability may be provided by areas where the braided mesh density is greater or lesser than surrounding areas and/or by means of a baffle. After the structure is placed in a void within a bony structure, cement is injected into the interior of the structure then oozes out in preferred directions according to the locations of the regions of differential permeability.

# 20 Claims, 27 Drawing Sheets

